UNITED STATES PATENT AND TRADEMARK OFFICE

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10/575,758	03/05/2007	Hiromichi Inaishi	1794-0182PUS1	5126

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EXAMINER
ALHIJA, SAIF A

ART UNIT	PAPER NUMBER
2128	

NOTIFICATION DATE	DELIVERY MODE
02/05/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/575,758	INAISHI ET AL.
	Examiner	Art Unit	
	SAIF A. ALHIJA	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 November 2009</u>.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>25,26,28-36 and 42-46</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>25,26,28-36 and 42-46</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>13 April 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
        1.☒ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 25-26, 28-36, and 42-46 have been presented for examination.

Claims 1-24 have been cancelled in a preliminary amendment.

Claims 27 and 37-41 have been cancelled.

Response to Arguments

2.   Applicant's arguments filed 18 November 2009 have been fully considered but they are not persuasive

NON-PRIOR ART ARGUMENTS

i)   The affidavit filed on 18 November 2009 under 37 CFR 1.131 has been considered but is ineffective to overcome the Kolman reference for the following reasons:

a)   The affidavit was not signed by the appropriate persons as per MPEP 715.04 (I) (A-D), more specifically none of the inventors have signed the 1.131.

b)   The Examiner also requests that translations of all accompanying documents be provided in order to ascertain if the appropriate steps were taken to preserve diligence between conception of the invention and its reduction to practice as alleged. The Examiner notes that a similar rule, Rule 1.55 Section 4 (I) states that a translation of a foreign application is required in the cases of overcoming the date of a prior art reference. Further Rule 1.52 b (II) states that papers that are to become a permanent USPTO record need be in the English language or be accompanied by a translation of the application and a translation of any corrections or amendments into the English language together with a statement that the translation is accurate.

PRIOR ART ARGUMENTS

ii)   In view of the issues presented above, with respect to the affidavit submitted, the prior art rejections are maintained.

PRIORITY

3.   Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are

applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as

follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or
        nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.   Claims 25-26, 32-36, and 42-46 are rejected under 35 U.S.C. 103(a) as being clearly anticipated by

Geppert, "IC Design on the World Wide Web", hereafter Geppert in view of **Kolman, U.S. Patent**

Application No. 2005/0071715, hereafter Kolman.

Regarding Claim 25:

        The reference discloses A printed circuit board design instruction support device that supports printed

circuit board design between a circuit design and a printed circuit board design, said device comprising:

        means for reading a circuit diagram designed by the circuit design; **(Geppert. Page 46, Figure 1, circuit**

CAD)

        means for storing design instruction information regarding the printed circuit board design and keywords,

which are associated with said design instruction information and set corresponding to the type of items included in

said circuit diagram; and **(Geppert. Page 46, Figure 1, circuit CAD. Figure 4, power analysis of circuit)**

means for extracting keywords corresponding to the type of items included in the read circuit diagram and

automatically displaying design instruction information associated with the extracted keywords, when the circuit

diagram is read by said reading means, wherein **(Geppert. Figure 5 component key words)**

      Geppert does not explicitly disclose said design instruction is made up of design implementation

information showing information whether or not a circuit board designed was performed according to a design

instruction and printed circuit board design instruction support implementation information to which check result

information of printed circuit board design instruction support is input, and

      said storing means is database in which design instruction and said keywords are listed in a divided

manner.

      However Kolman discloses said design instruction is made up of design implementation information

showing information whether or not a circuit board designed was performed according to a design instruction and

printed circuit board design instruction support implementation information to which check result information of

printed circuit board design instruction support is input, and **(Kolman. Figure 4, element 114 and Paragraph 40)**

      said storing means is database in which design instruction and said keywords are listed in a divided

manner. **(Kolman. Column 5, Lines 2-4, text list)**

      Geppert and Kolman are analogous art in circuit design.

      It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the

graphical design information of **Kolman** with the design aspect of **Geppert** in order to provide a simpler and more

user intuitive interface for graphical design and verification of an integrated circuit.

Regarding Claim 26:

      The reference discloses The printed circuit board design instruction support device according to claim 25,

wherein said displaying means displays keywords corresponding to the type of items included in the read circuit

diagram when the circuit diagram is read by said reading means. **(Geppert. Page 48, bottom right, "including**

searches by key word.")

      See 103 rejection of claim 25.

said displaying means simultaneously displays said design instruction, said keywords, said items, said

design implementation information and said printed circuit board design instruction support implementation

information in a list. **(Kolman. Column 5, Lines 2-4, text list with graphical representation)**

Regarding Claim 32:

The reference discloses The printed circuit board design instruction support device according to claim 26,

said device comprising:

means for extracting items included in the circuit diagram read by said reading means; and **(Geppert. Page**

46, Figure 1, circuit CAD. Figure 4, power analysis of circuit)

means for associating the items that were extracted by said extraction means with said design instruction

information via said keywords, wherein **(Geppert. Figure 5 component key words)**

said display means automatically displays correlation between the items associated by said association

means on the circuit diagram. **(Geppert. Page 48, bottom right, "One of the most successful Web sites for design**

information is maintained by National Semiconductor Corp., Santa Clara, Calif. Visitors to the company's

site have access to its complete portfolio of more than 27 000 parts-the equivalent of more than 40 000 pages

of technical information.")

Regarding Claim 33:

Geppert does not explicitly recite the term "highlighting" with respect to the claims recitation of The

printed circuit board design instruction support device according to claim 32, wherein

said reading means reads a printed circuit board diagram designed by the printed circuit board design, said

device comprising:

means for selecting items or keywords displayed by said display means; and

means for highlighting regions of selected items on the printed circuit board diagram read by said reading

means, which correspond to items selected by said selection means, by displaying in an enlarged manner when the

items are selected by said selection means, and highlighting only items associated with the keywords on said printed

circuit board diagram read by said reading means, which corresponds to keywords selected by said selection means, when the keywords are selected by said selection means in performing cross probe.

However it would have been obvious to one of ordinary skill in the art at the time of the invention to highlight items that were of importance to design/verification/etc. This is seen in Geppert on Page 49, left middle, which recites "It is a cross-platform software suite for <u>collaborative design</u> on the Web, so that teams with members anywhere in the world may <u>manage the design and configuration data associated with complex application-specific IC and custom chips.</u>"

In addition see paragraph 56 of Kolman which recites highlighting in view of the 103 rejection presented in claim 25.

Regarding Claim 34:

See rejection of claim 33.

Regarding Claim 35:

Geppert does not explicitly recite the term "highlighting" with respect to the claims recitation of The printed circuit board design instruction support device according to any one of claims 33 and 34, said device comprising:

means for executing macro that performs control such that said display means displays the entire circuit diagram read by said reading means before items are highlighted by said highlight means, macro that performs control such that said display means displays highlighted items in an enlarged manner after the items were highlighted by said highlight means, or macro that performs control such that said display means displays the entire circuit diagram read by said reading means before items are highlighted by said highlight means and said display means displays highlighted items in an enlarged manner after the items were highlighted by said highlight means.

However it would have been obvious to one of ordinary skill in the art at the time of the invention to highlight items that were of importance to design/verification/etc. This is seen in Geppert on Page 49, left middle, which recites "It is a cross-platform software suite for <u>collaborative design</u> on the Web, so that teams

with members anywhere in the world may <u>manage the design and configuration data associated with complex</u>

<u>application-specific IC and custom chips." See also Figure 1 of Geppert with respect to verification.</u>

In addition see paragraph 56 of Kolman which recites highlighting in view of the 103 rejection

presented in claim 25.

Regarding Claim 36:

The reference discloses The printed circuit board design instruction support device according to any one

of claims 25, 26, 28, 29, 30, 31, 32, 33 and 34, said device comprising:

means for managing whether or not a printed circuit board design was performed according to said design

instruction information, by accepting the input of a result in which said design instruction information was reflected

on the printed circuit board design and accepting an agreement to said result, wherein **(Geppert. Figure 1,**

verification)

See 103 rejection of claim 25.

said result is identifiably displayed on a display screen while the color and/or brightness of said items are

changed and; **(Kolman. Paragraph 56.)**

the device is capable of simultaneously displaying areas to be checked on both of a circuit diagram and a

printed circuit board layout diagram for each circuit part. **(Kolman. Column 5, Lines 2-4, text list with graphical**

representation)

Regarding Claim 42:

The reference discloses A program for allowing a computer to function as the printed circuit board design

instruction support device according to any one of claims 25, 26, 28, 29, 30, 31, 32, 33 and 34. **(Geppert. Page 47,**

left bottom, client/server)

Regarding Claim 43:

The reference discloses A program for allowing a computer to function as the printed circuit board design

instruction support device according to claim 35. **(Geppert. Page 47, left bottom, client/server)**

Regarding Claim 44:

The reference discloses A printed circuit board design instruction support method in which printed circuit board design is supported between a circuit design and a printed circuit board design, said method comprising the steps of:

Using a computer to execute the following steps;

reading a circuit diagram designed by the circuit design; **(Geppert. Page 46, Figure 1, circuit CAD)**

storing design instruction information regarding the printed circuit board design and keywords, which are associated with said design instruction information and set corresponding to the type of items included in said circuit diagram; and **(Geppert. Page 46, Figure 1, circuit CAD. Figure 4, power analysis of circuit)**

extracting keywords corresponding to the type of items included in the read circuit design and displaying design instruction information associated with the extracted keywords, when the circuit design is read by said reading step, wherein **(Geppert. Figure 5 component key words)**

said design instruction information is made up of design implementation information showing information whether or not a circuit board designed was performed according to a design instruction and printed circuit board design instruction support implementation information to which check result information of printed circuit board design support implementation is input, and **(See rejection of claim 25)**

said storing step is listing design instruction and said keywords in a divided manner. **(See rejection of claim 25)**

Regarding Claim 45:

The reference discloses A program for allowing a computer to function as the printed circuit board design instruction support device according to claim 44. **(Geppert. Page 47, left bottom, client/server)**

Regarding Claim 46:

The reference discloses A computer-readable recording medium recording the program according to claim 42. **(Geppert. Page 47, left bottom, client/server)**

5.   **Claim(s) 28-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Geppert** in view of

Kolman further in view of **Kundert, "Power Supply Noise Reduction", hereafter Kundert.**

Regarding Claim 28:

        Geppert and Kolman do not explicitly disclose The printed circuit board design instruction support

device according to claim 25, said device comprising:

        means for extracting damping resistances including the attribute of series connection from the circuit

diagram read by said reading means, judging whether or not the resistances are damping resistances by

discriminating whether or not items connected to the pins of the extracted resistances are IC's and automatically

extracting damping resistances that are correctly arranged based on a design rule in arranging and target IC's

resistances from the circuit diagram read by said reading means.

        However Kundert discloses means for extracting damping resistances including the attribute of series

connection from the circuit diagram read by said reading means, judging whether or not the resistances are damping

resistances by discriminating whether or not items connected to the pins of the extracted resistances are IC's and

automatically extracting damping resistances that are correctly arranged based on a design rule in arranging and

target IC's resistances from the circuit diagram read by said reading means. **(Kundert. Figure 8 and Section 6)**

        Geppert, Kolman, and Kundert are analogous art in circuit design.

        It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the

design of a dampling resistance in the IC and its corresponding wiring information as per **Kundert** with the design

of IC's in **Geppert** and **Kolman** since damping resistors are a well known and common way to reduce ringing and

noise peaking in integrated circuit designs. **(Kundert, Section 6)**

Regarding Claim 29:

        Geppert and Kolman do not explicitly disclose The printed circuit board design instruction support

device according to claim 25, said device comprising:

means for extracting capacitors which are connected to a power source and ground from the circuit diagram read by said reading means, judging whether or not said capacitors are bypass capacitors by discriminating whether or not the extracted capacitors are capacitors to which an IC is connected to the power source side and automatically extracting bypass capacitors and target IC's of the capacitors from the circuit diagram read by said reading means.

However Kundert discloses means for extracting capacitors which are connected to a power source and ground from the circuit diagram read by said reading means, judging whether or not said capacitors are bypass capacitors by discriminating whether or not the extracted capacitors are capacitors to which an IC is connected to the power source side and automatically extracting bypass capacitors and target IC's of the capacitors from the circuit diagram read by said reading means. **(Kundert. Figure 8 and Section 6)**

Geppert, Kolman, and Kundert are analogous art in circuit design.

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the design of a bypass capacitor in the IC and its corresponding wiring information as per **Kundert** with the design of IC's in **Geppert** and **Kolman** since bypass capacitors are a well known and common way to reduce output impedance in integrated circuit designs. **(See Kundert, Page 5, last paragraph)**

Regarding Claim 30:

Geppert and Kolman do not explicitly disclose The printed circuit board design instruction support device according to claim 29, wherein

said extraction means when the extracted capacitors are connected to a plurality of Ics, extracts an IC having the shortest connecting distance out of the Ics.

However Kundert discloses said extraction means when the extracted capacitors are connected to a plurality of Ics, extracts an IC having the shortest connecting distance out of the Ics. **(Kundert. Figure 8 and Section 6)**

Geppert, Kolman, and Kundert are analogous art in circuit design.

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the design of a bypass capacitor in the IC and its corresponding wiring information as per **Kundert** with the design of

IC's in **Geppert** and **Kolman** since bypass capacitors are a well known and common way to reduce output impedance in integrated circuit designs. **(See Kundert, Page 5, last paragraph)**

Regarding Claim 31:

       Geppert and Kolman do not explicitly disclose The printed circuit board design instruction support device according to claim 29, wherein said extraction means extracts bypass capacitors, the target Ics of the capacitors, and the information of wiring connecting the both parts from the circuit diagram read by said reading means.

       However Kundert discloses The printed circuit board design instruction support device according to claim 29, wherein said extraction means extracts bypass capacitors, the target Ics of the capacitors, and the information of wiring connecting the both parts from the circuit diagram read by said reading means. **(Kundert. Figure 8 and Section 6)**

       Geppert, Kolman, and Kundert are analogous art in circuit design.

       It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the design of a bypass capacitor in the IC and its corresponding wiring information as per **Kundert** with the design of IC's in **Geppert** and **Kolman** since bypass capacitors are a well known and common way to reduce output impedance in integrated circuit designs. **(See Kundert, Page 5, last paragraph)**

<u>*Conclusion*</u>

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

       A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7.   All Claims are rejected.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be

directed to SAIF A. ALHIJA whose telephone number is (571)272-8635. The examiner can normally be reached on

M-F, 11:00-7:30.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah

can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding

is assigned is (571) 273-8300. *Informal or draft communication, please label PROPOSED or DRAFT,* can be

additionally sent to the Examiners fax phone number, (571) 273-8635.

        Information regarding the status of an application may be obtained from the Patent Application Information

Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR

or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more

information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the

Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAA   /Kamini S Shah/
                                                        Supervisory Patent Examiner, Art Unit 2128

January 26, 2010